



Transparency works! Making the information revolution a reality for patients, public and professionals in health and social care

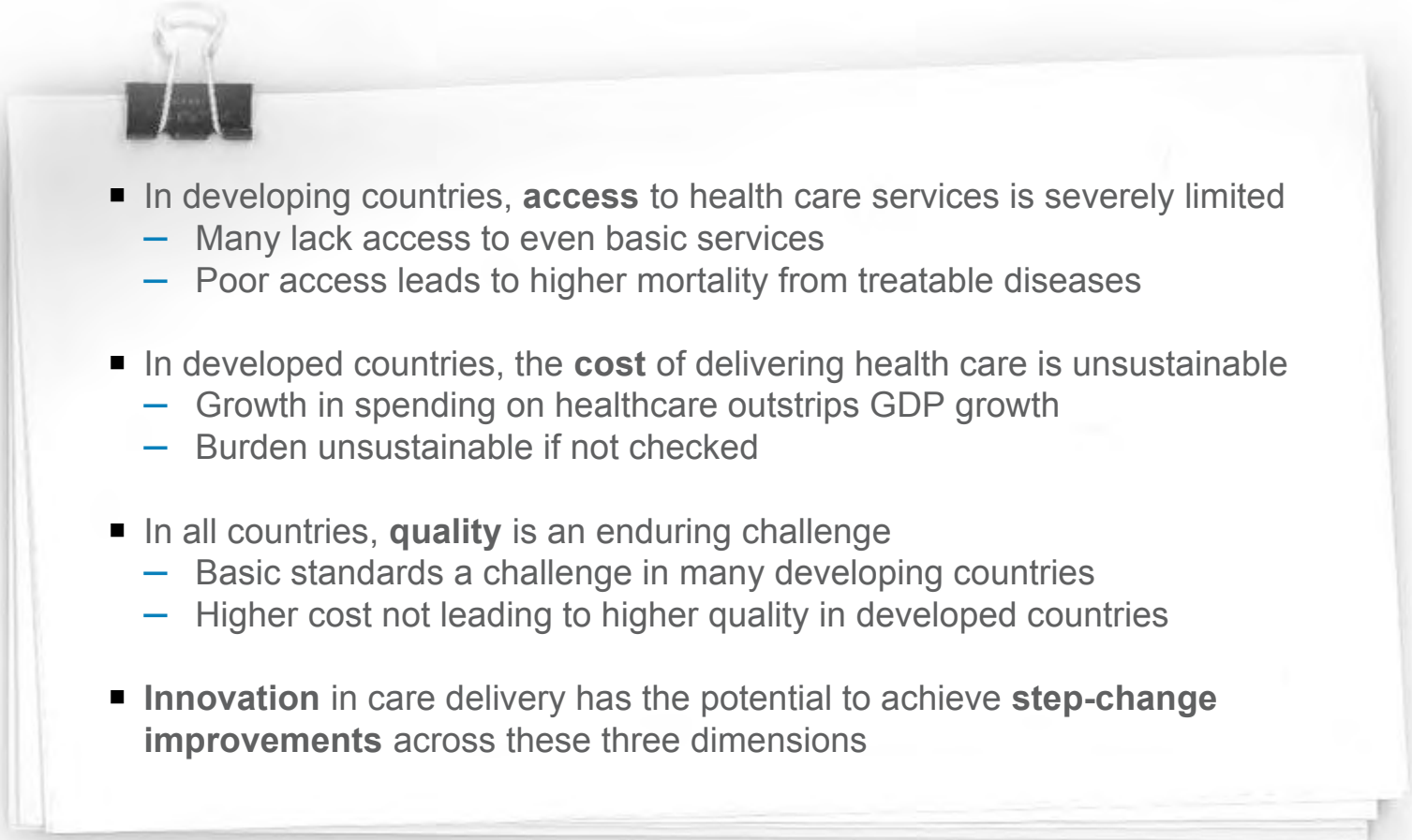


Innovation Expo Masterclass Theatre
Tim Kelsey

10 March 2011

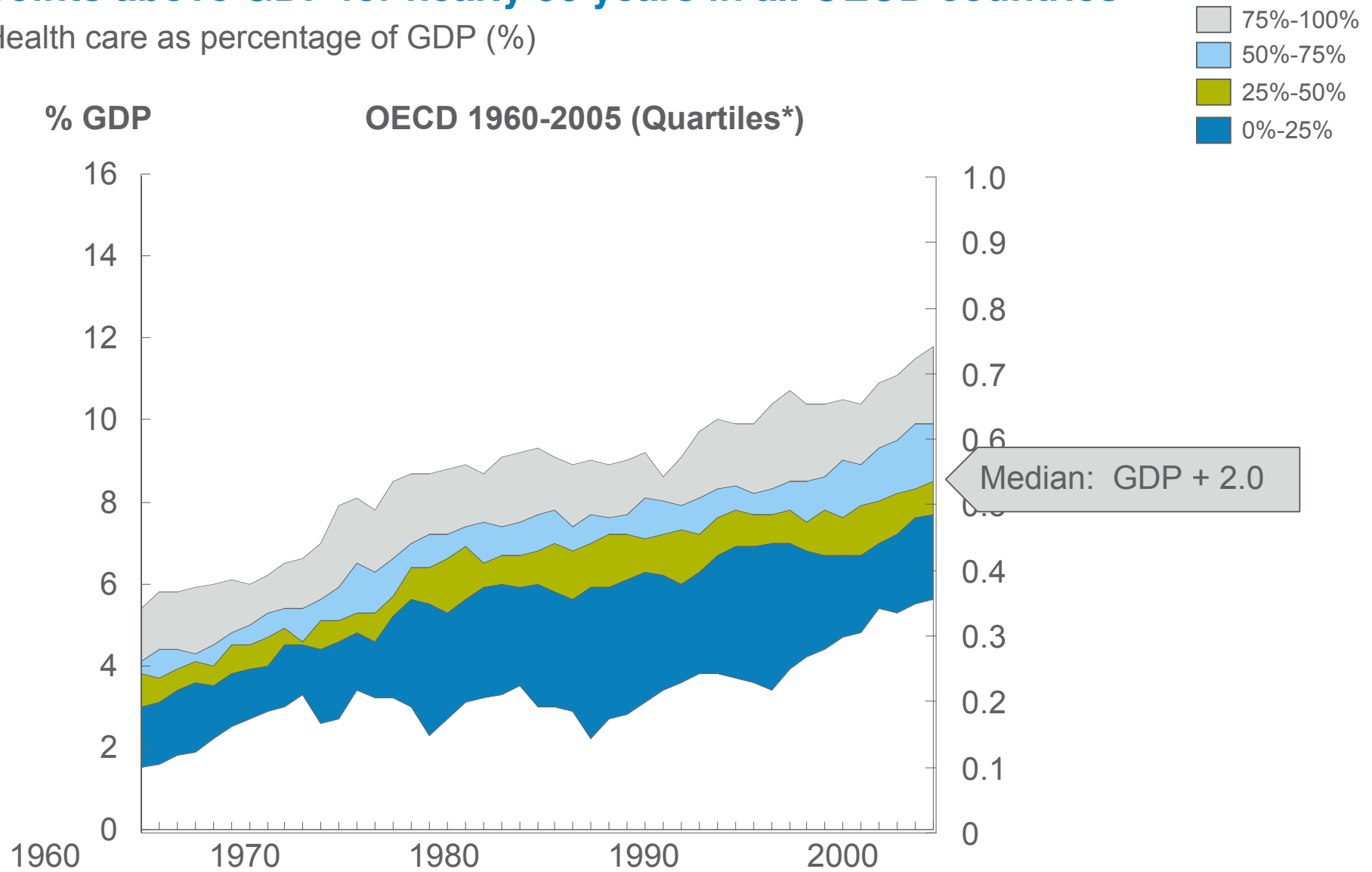
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All health systems face challenges of cost, quality and access – innovative information-based delivery models have the potential to deliver step change

- 
- In developing countries, **access** to health care services is severely limited
 - Many lack access to even basic services
 - Poor access leads to higher mortality from treatable diseases
 - In developed countries, the **cost** of delivering health care is unsustainable
 - Growth in spending on healthcare outstrips GDP growth
 - Burden unsustainable if not checked
 - In all countries, **quality** is an enduring challenge
 - Basic standards a challenge in many developing countries
 - Higher cost not leading to higher quality in developed countries
 - **Innovation** in care delivery has the potential to achieve **step-change improvements** across these three dimensions

The median increase in health care spending has been two percentage points above GDP for nearly 50 years in all OECD countries

Health care as percentage of GDP (%)

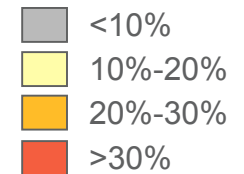


* Excluding US

Source: OECD 1960-2005 (pub. 2007)

If the trend continues, healthcare will consume an ever-growing proportion of the developed nations' wealth

Projected health care as percentage of GDP (%)*



OECD-historic rate: GDP + 2.0

OECD	2005	2030	2050	2080	2100
USA	15.3	24.9	36.7	65.6	96.8
Switzerland	11.6	18.8	27.8	49.8	73.4
France	11.1	18.0	26.6	47.6	70.2
Germany	10.7	17.4	25.6	45.9	67.7
Belgium	10.3	16.7	24.7	44.2	65.2
Austria	10.2	16.6	24.4	43.8	64.5
Portugal	10.2	16.6	24.4	43.8	64.5
Greece	10.1	16.4	24.2	43.3	63.9
Canada	9.8	15.9	23.5	42.0	62.0
Australia	9.5	15.4	22.8	40.8	60.1
Iceland	9.5	15.4	22.8	40.8	60.1
Netherlands	9.2	14.9	22.0	39.5	58.2
Denmark	9.1	14.8	21.8	39.0	57.6
Norway	9.1	14.8	21.8	39.0	57.6
Sweden	9.1	14.8	21.8	39.0	57.6
New Zealand	9.0	14.6	21.6	38.6	56.9
Italy	8.9	14.5	21.3	38.2	56.3
Luxembourg	8.3	13.5	19.9	35.6	52.5
UK	8.3	13.5	19.9	35.6	52.5
Spain	8.2	13.3	19.6	35.2	51.9
Hungary	8.1	13.2	19.4	34.8	51.2
Japan	8.0	13.0	19.2	34.3	50.6
Turkey	7.6	12.3	18.2	32.6	48.1
Finland	7.5	12.2	18.0	32.2	47.4
Ireland	7.5	12.2	18.0	32.2	47.4
Czech Republic	7.2	11.7	17.3	30.9	45.5
Slovak Republic	7.1	11.5	17.0	30.5	44.9
Mexico	6.4	10.4	15.3	27.5	40.5
Poland	6.2	10.1	14.9	26.6	39.2
Korea	6.0	9.7	14.4	25.7	38.0

- Healthcare costs would reach 30% of the median OECD GDP by 2070
- Healthcare costs will be unsustainable unless we make fundamental improvements in delivery

* Assumes health care continues to grow at +2.0 above GDP

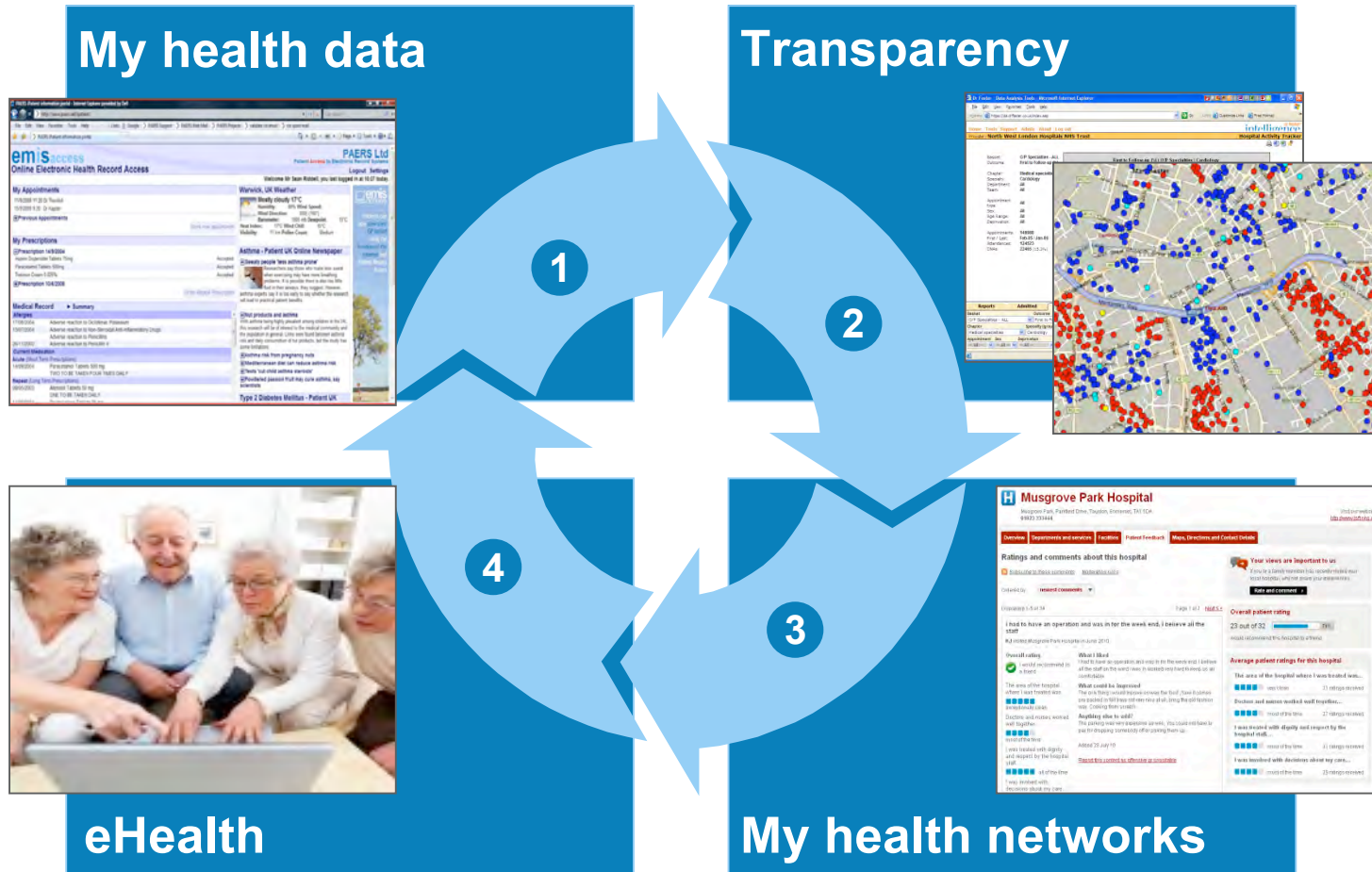
Source: Forecast model assuming real GDP growth of 2.0%, health care spend growing at 0.95/1.9 percentage points above real GDP (OECD Health System Institute | 3
New Economy 2000-2050 (2001); Global Insight WMM 2000-2037)

Productivity needs an Information Revolution – Transparency may offer the best solution to improving outcomes and reducing cost

- Patients make more informed decisions about self-care and wellness
- Clinicians benchmark and improve data quality and performance
- Communities engage in managing public health outcomes
- Digital applications mean citizens do more of the work in healthcare

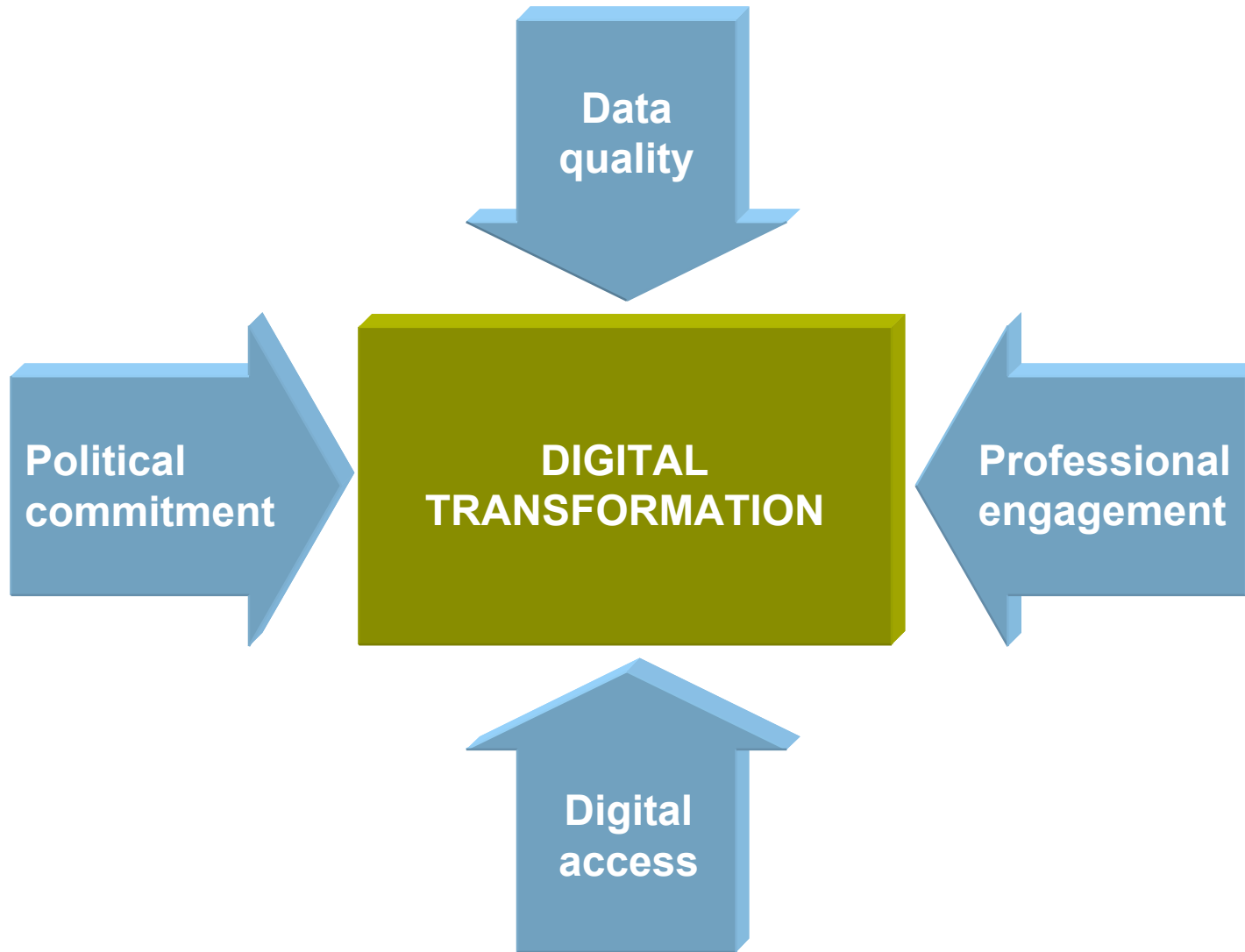
‘An Information Revolution will remake society to give real transparency, choice and accountability’ **David Cameron**

We need an information revolution!



‘An Information Revolution will remake society to give real transparency, choice and accountability’ **David Cameron**

An information revolution has 4 essential preconditions



Information strategy case study: The State of California developed an information strategy to improve children’s education

Define high-priority information	Relevant business strategy and initiatives	<ul style="list-style-type: none"> ■ Improve K-12 education ■ Ensure all segments of the population are being served ■ Identify and share best practices amongst teachers and administrators
	Priority data elements	<ul style="list-style-type: none"> ■ Test scores ■ Sociodemographic data ■ Teacher-identifying data ■ Teaching process data (times, tests used)
Identify gaps	Key data already collected	<ul style="list-style-type: none"> ■ Some test scores ■ Some sociodemographic data
	Highest-value flows to front line	<ul style="list-style-type: none"> ■ High-performing teachers with similar class demographics ■ Information about tools those teachers were using
	Gaps in ability of front line to act on data	<ul style="list-style-type: none"> ■ Raw data not easy to make into information ■ No way to share tools ■ No incentive to innovate
Lay out the roadmap	Actions taken to better leverage existing data	<ul style="list-style-type: none"> ■ Improve quality and timeliness of existing data collections ■ Develop user-friendly interfaces and reports ■ Develop opt-in bank of assessment tools
	Future plans	<ul style="list-style-type: none"> ■ Build longitudinal tracking systems for students ■ Develop systems to encourage collaboration

Impact of the new strategy

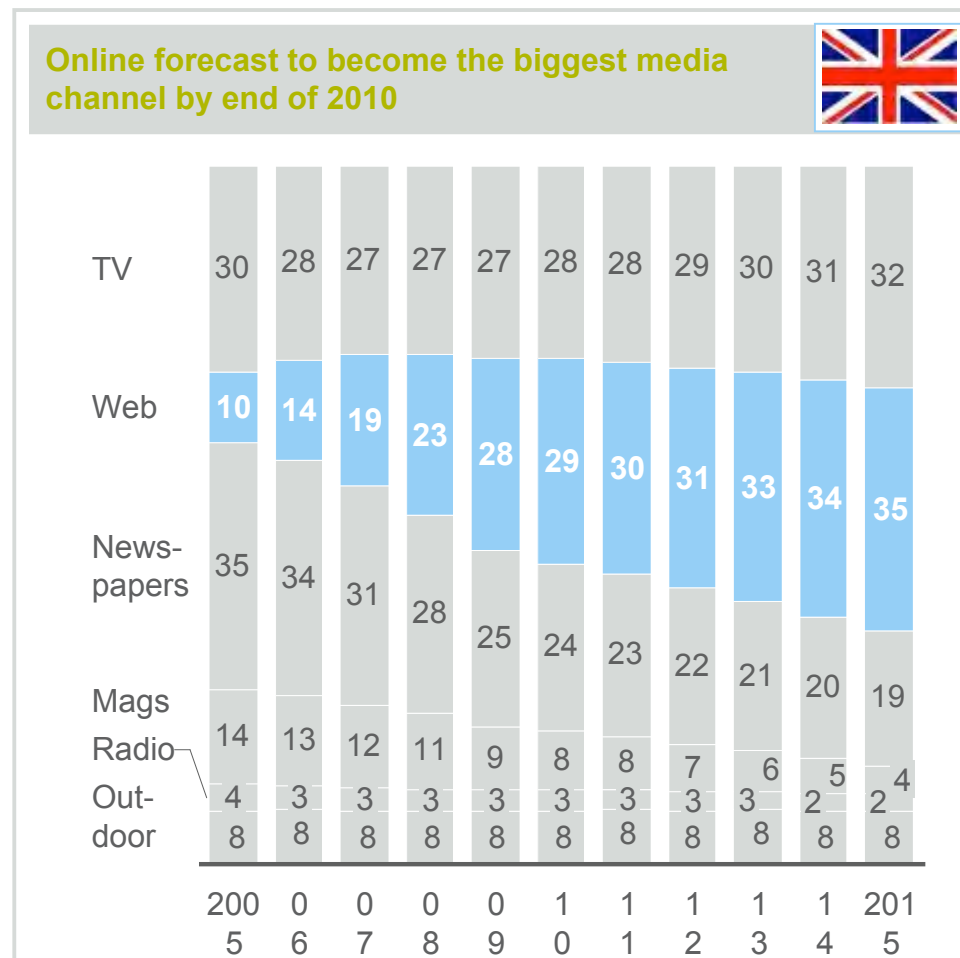
- Increased use of data among teachers
- Improved test scores
- Radically increased transparency of school results through public website

Information strategy case study: The IATA developed an information strategy to save members money and improve customer experience

Define high-priority information	Relevant business strategy initiatives	<ul style="list-style-type: none"> Improve operational efficiency/ reduce waiting and wastage Make it easier to collaborate (e.g. share passengers and cargo) 	Impact of the new strategy <hr/> <ul style="list-style-type: none"> From 19% to 100% compliance with e-ticketing between 2004 and 2008 E-ticketing savings to members of \$3 billion / year Overall savings for full “Simplifying the Business” programme of \$16.8 billion / year
	Priority data elements	<ul style="list-style-type: none"> Unique ticket numbers and confirmation codes Passenger ID information Realtime flight / passenger status 	
Identify gaps	Key data already collected	<ul style="list-style-type: none"> Passenger information Ticket numbers (though not unique) 	
	Highest-value flows to front line	<ul style="list-style-type: none"> Electronic / self-checkin Ability to reticket/ shift seats to optimise capacity 	
	Gaps in ability of front line to act on data	<ul style="list-style-type: none"> Cumbersome to change or reissue paper tickets; could only be done in person, restricting who was “front line” 	
Lay out the roadmap	Actions taken to better leverage existing data	<ul style="list-style-type: none"> Standardise ticket and passenger information format Create flows to enable collaboration and test standards Create incentives to drive adoption by publicly measuring and announcing progress of specific members 	
	Future plans	<ul style="list-style-type: none"> Enable e-freight 	

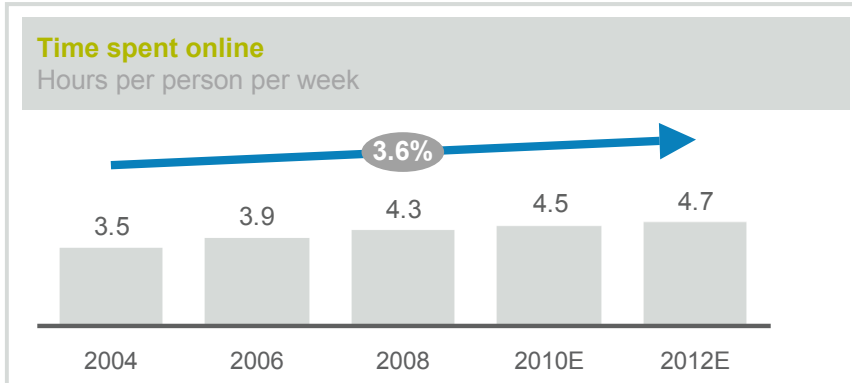
Some context ... online is shortly to become the biggest means by which the British public learn about products and services in general

Net revenues of advertising vehicles, Percent

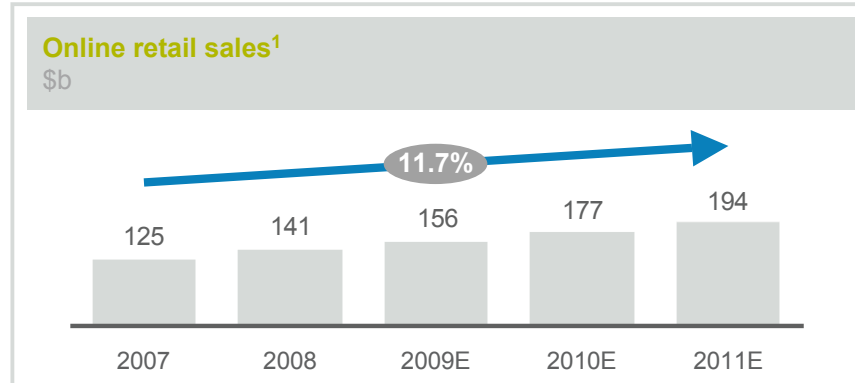


Citizens favour digital media for shopping

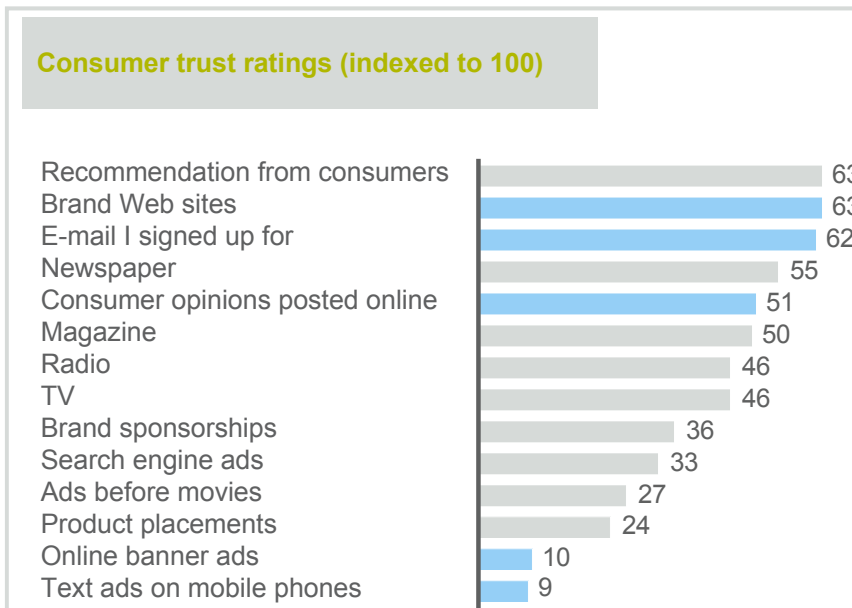
Consumers are spending more time online . . .



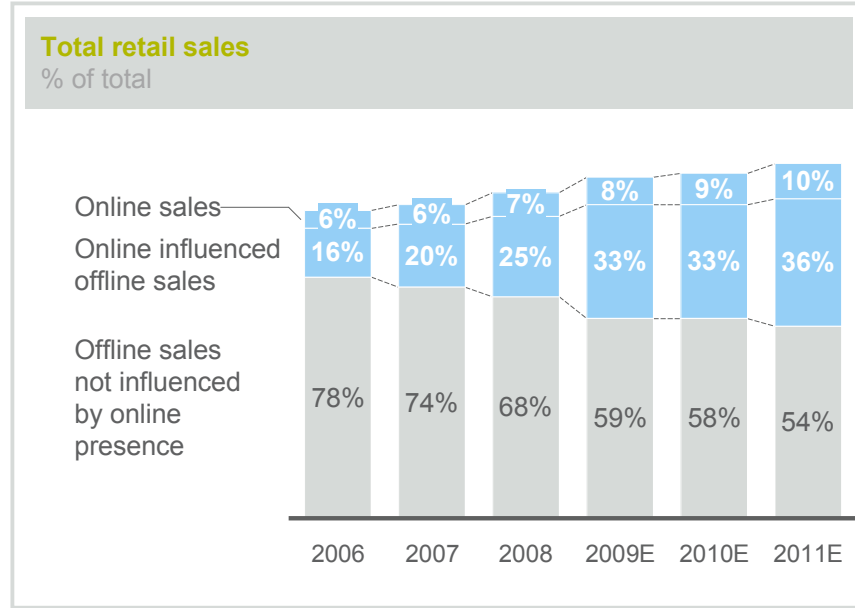
. . . spending more money online . . .



. . . and being influenced more by digital mediums . . .



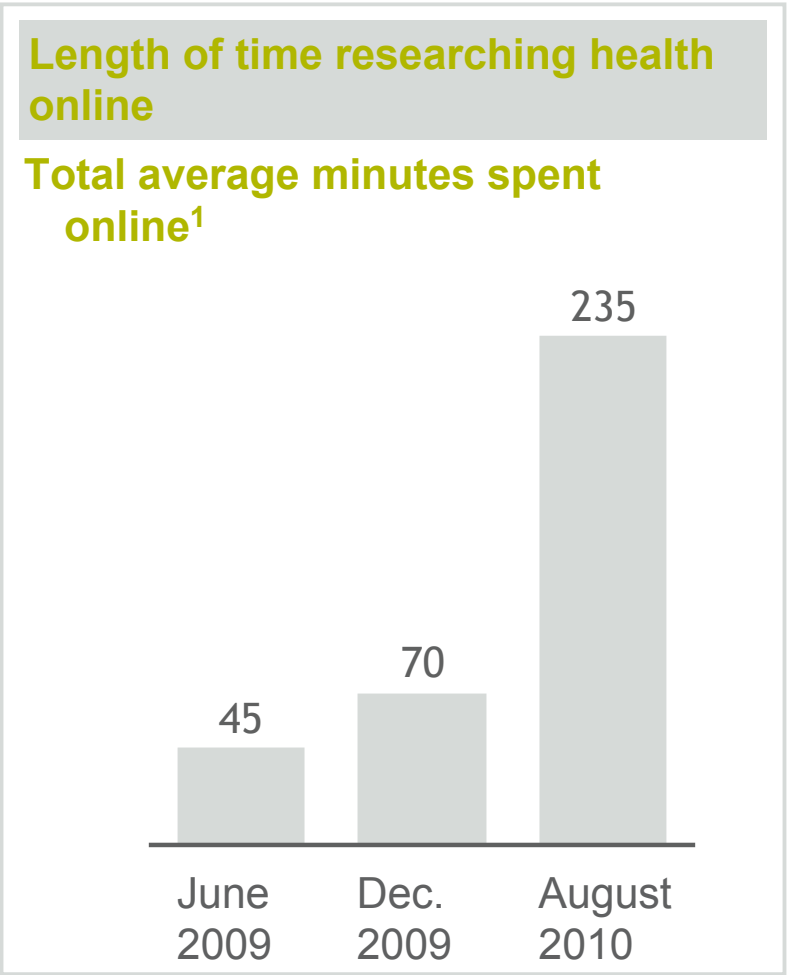
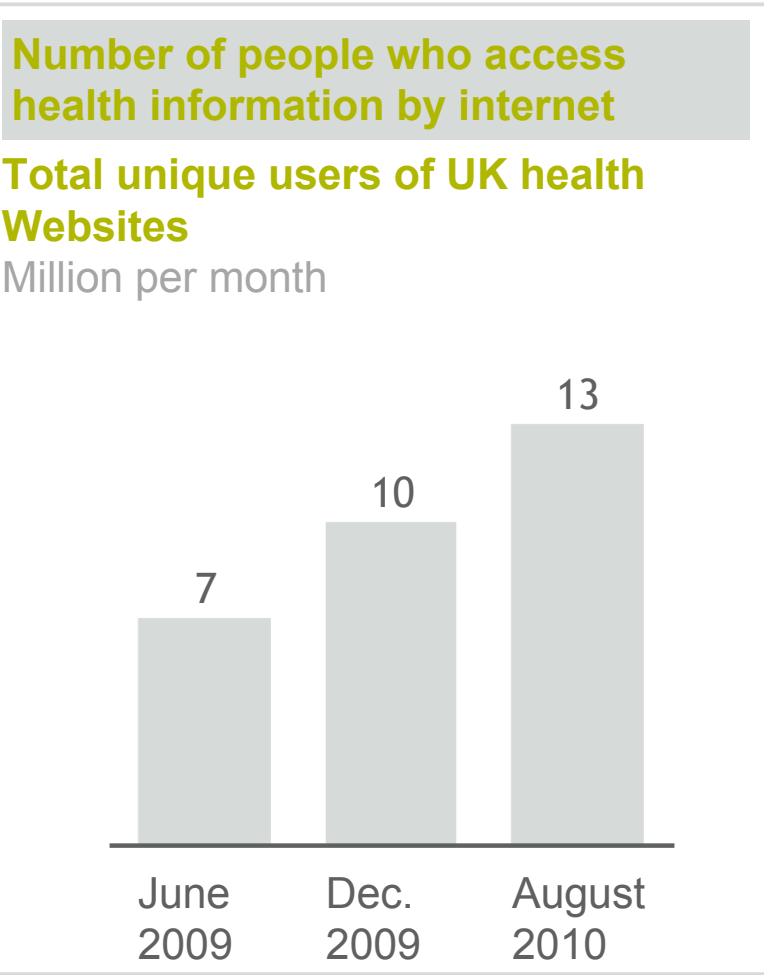
. . . for both online and in-store purchases



¹ Retail does not include automotive, travel, and prescription drugs

SOURCE: Veronis Suhler Stevenson research; Shop.org study by Forrester Research ; BusinessWeek

In line with the overall trend, there is rapidly growing demand from consumers for digital health information and self-service applications and tools

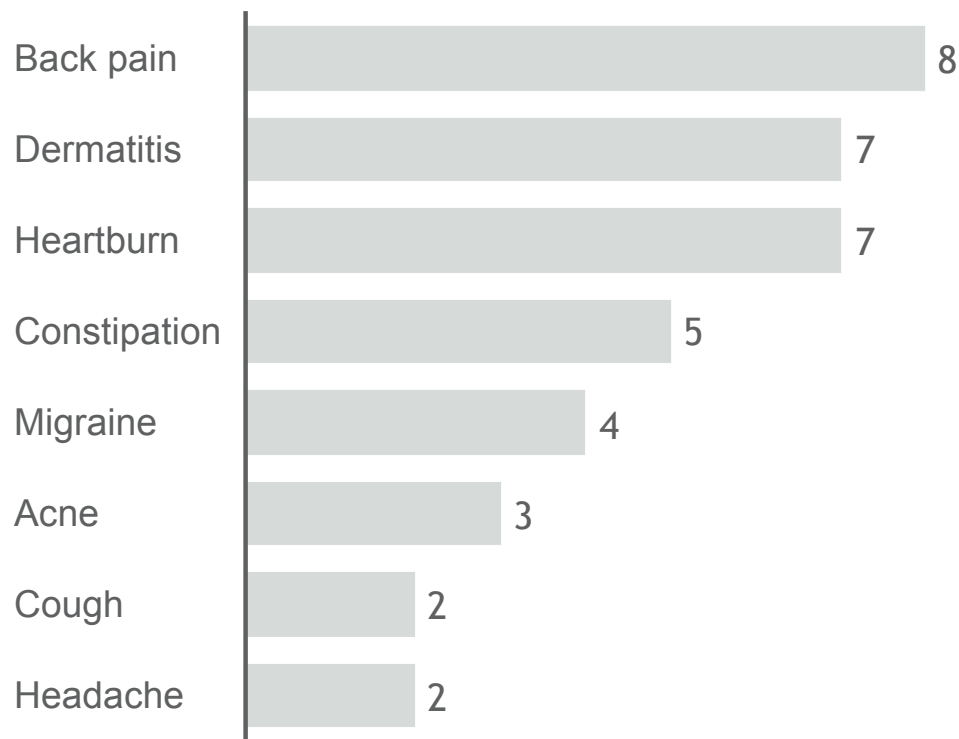


¹ The jump between December and August 2010 does reflect increase in volumes and time spent online - the sudden jump reflects the addition of NHS Choices traffic to Comscore after December 2009 when its data could be validated. This is, however, new traffic.

Remote information services could support millions of GP patients self-care more effectively/prevent unnecessary GP visits for minor ailments

The top 8 causes of GP appointments that could be managed elsewhere

Appointments per annum (million)



- Research suggests 57m appointments with GPs – 20% of all appointments - could be better managed through self-care
- There is, however, a growing trend towards self-care using remote services:
 - 19m people used NHS Choices for information on swine flu, rather than visit a GP
 - NHS Choices alcohol tracker app became one of the most popular free downloads in the health and fitness category,

Digital transparency has transformed other industries

Online banking – a consumer success story

- Launched in the US in 1994 and in the UK in 1998
- Now >22M adult users (>50% of computer users)

The logo for Cahoot, featuring the word "cahoot" in a lowercase, bold, maroon sans-serif font.The logo for RBS, featuring a blue sunburst icon to the left of the letters "RBS" in a bold, blue sans-serif font.

Consumer applications offered with digital banking

- ACCESS TO RECORDS
 - Online banking offers access to personal bank account applications in a secure environment
 - Healthcare equivalent: access to the medical record
- ABILITY TO TRANSACT
 - Customers pay bills and receive payments
 - Healthcare equivalent: ability to receive test results
- ABILITY TO BOOK APPOINTMENTS
 - Online banks offer real time facilities to book meetings and calls with advisers

There has been some innovation in online tools in the UK ...

NHS choices

- Comparative outcomes; patient information; feedback
- 8m unique users; 70% of GPs participate
- Independent research suggests reduces GP consultations by £44m per annum (six times its annual budget)

drfosterhealth.co.uk™

- Independent authority in health outcomes
- Produces unique consumer guides to health services, the first of which was published in 2001 - the first time that comparative adjusted in-hospital death rates had ever been published

... more in the US...

Veterans' Administration



- The VA is the largest integrated care system in the US with more than 5m patients
- Electronic patient record launched in 1997, giving patients online access, prescriptions and appointments booking, results viewing
- VA reduced bed days by 25% and is highest performing system in US

Care Management Organisation

- The Care Management Organisation in New York looks after more than 100,000 elderly patients
- It has implanted range of consumer technologies, including real-time record access and web-based monitoring, to manage patients with chronic illness at home
- It has reduced admissions by up to 55%

WebMD



- Online portal providing the public with health information for free
- Manages patient record services for employers and customises content on prevention for individuals
- Revenues: \$439 million in 2009, from pharma advertising and corporate licenses

In the UK, health consumers do not have access to 'breakthrough' digital technologies common in professional healthcare...

UK consumers can't access key services

Access to their own medical record

Access to lab test results online

Booking appointments with the doctor

Video conferencing with the doctor or nurse

But professionals have many tools at their disposal

Electronic Patient Records

Third generation diagnostics

Cloud' based imaging

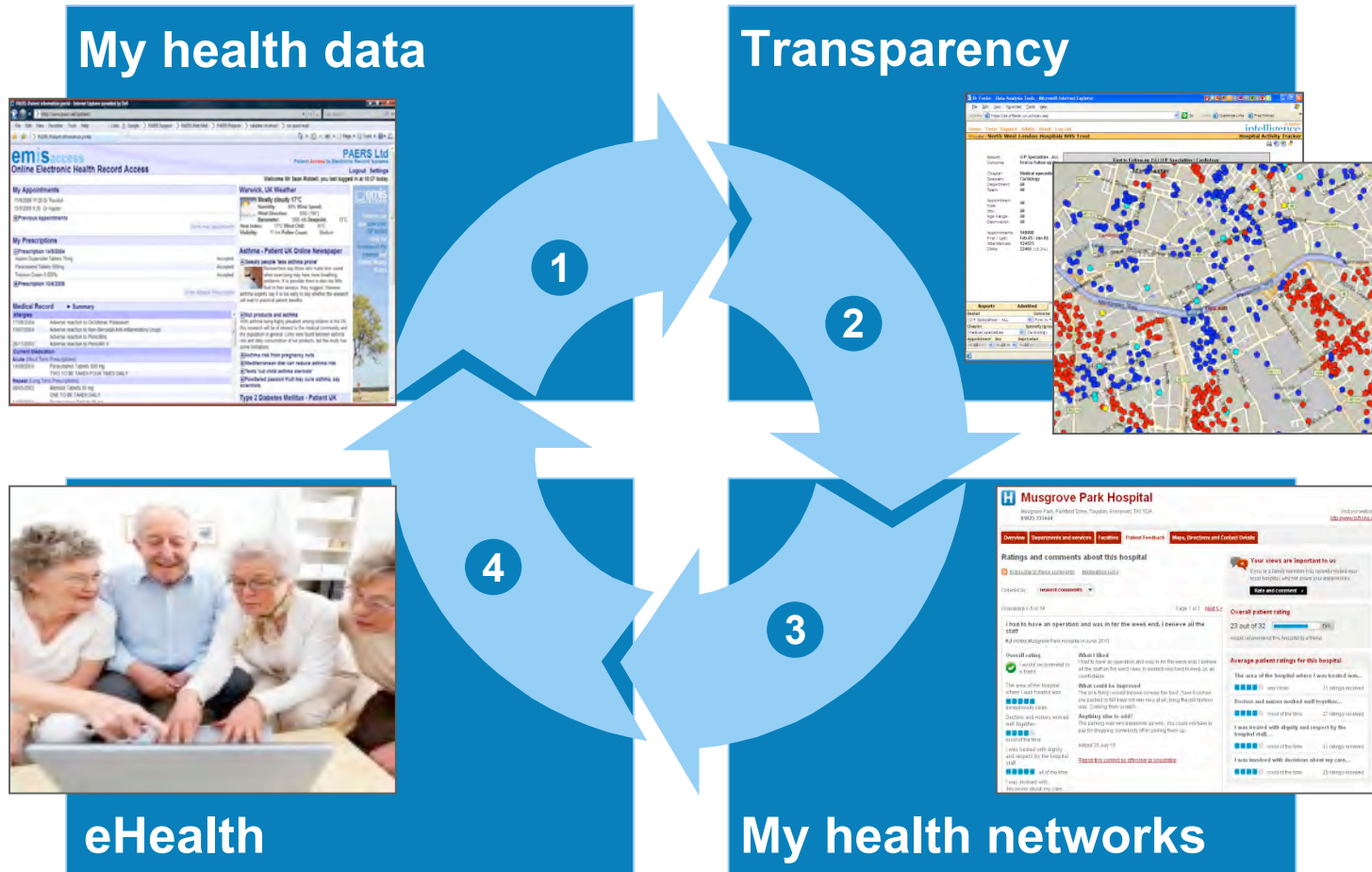
Remote monitoring

Online triage

Professional networks

Real time outcomes

It's time for an information revolution!



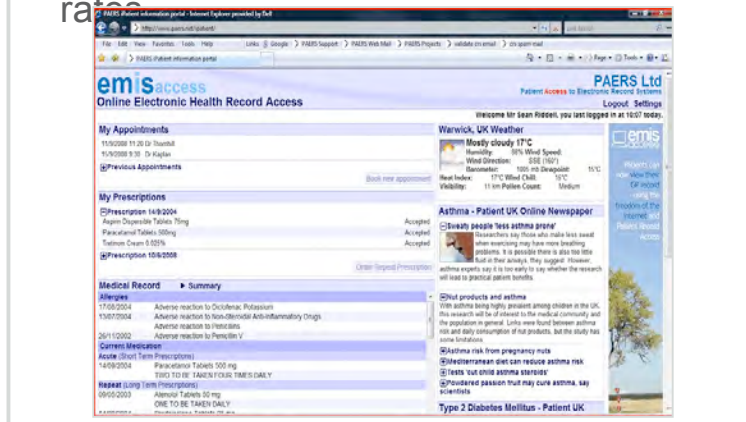
‘An Information Revolution will remake society to give real transparency, choice and accountability’ **David Cameron**

1. Personal data: access to Medical Records drives improved efficiency

My Medical Record

Studies show that patients gain significantly from record access

- They trust the clinician and the practice more
- They feel more able to self-manage their illnesses
- They feel more confident in the clinical encounter
- They can correct the record and thus improve safety
- There is some evidence that record access improves health outcomes, improving medication compliance in heart failure and improving smoking quit rates



My Health Statement

American insurers have been supplying members with personal statements on spending and prescribing – targeting wellness and disease management, as well as financial information

Humana has evidence that this has reduced hospital admissions in some cases by a third

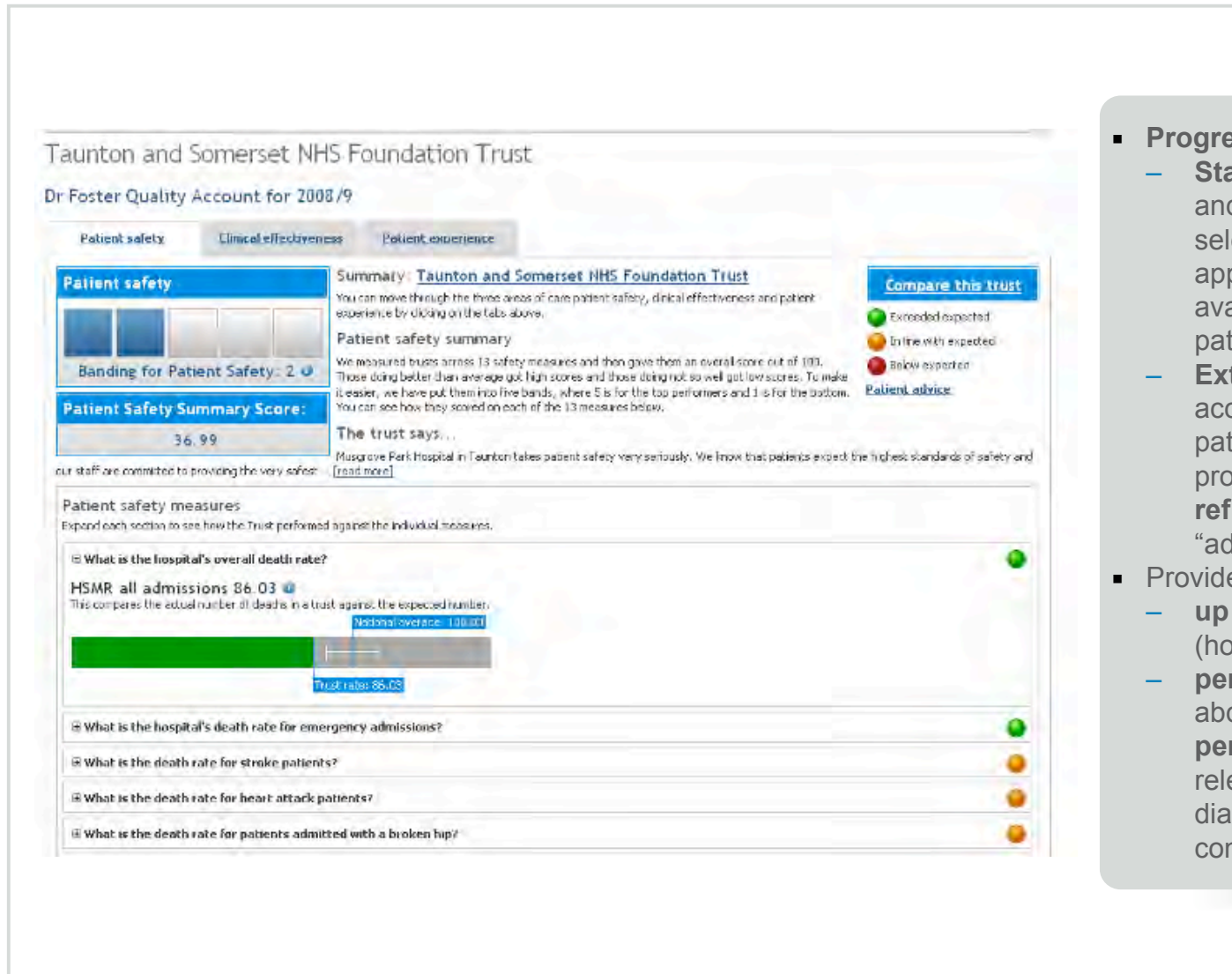


VA's patient viewable EMR has had a significant impact



Context	What happened/what it is	Enablers//Implementation	Impact/outcomes
<ul style="list-style-type: none"> ▪ The Department of Veterans Affairs (VA), is the largest integrated health system in the U.S. ▪ ~5.3m patients, 171 medical centers, 876 outpatient clinics ▪ Vertically integrated, including clinic, physicians, and few external referrals 	<ul style="list-style-type: none"> ▪ Computerized Patient Record System released in 1997 enabling: <ul style="list-style-type: none"> – Bar code medicine administration – Electronic prescriptions – Clinical guidelines – Review and update EMRs ▪ VISTA web developed in 2007 to allow a single patient record for true interoperability over multiple sites ▪ Telemedicine system for chronic disease mgmt including messaging devices to gather patient information, monitoring, and videophones 	<ul style="list-style-type: none"> ▪ Nurses cross-trained as system administrators to help bridge the Clinician-IT communication gap ▪ Broad clinician involvement in evaluating vendors for any third-party software system ▪ Designated representatives from all clinical and administrative service lines approve any IT change requests ▪ The VA's formal clinical performance evaluation criteria and independent audits are used in evaluating the benefits achievable from HIT ▪ Free, online Personal Health Record that aims to empower users to become informed partners in their health care 	<ul style="list-style-type: none"> ▪ Improved operating efficiencies by ~6% ▪ Length-of-stay reduced by a third ▪ Outpatient visits reduced by 20% ▪ Prescription costs reduced 20–30% for appropriate patients with chronic conditions ▪ ~50% reduction in outpatient ADEs ▪ Dramatic reduction in prescription errors ▪ 25% reduction in hospital bed days ▪ 19% reduction in hospital admissions ▪ Single nurse able to 'touch' 150 patients per day remotely ▪ Overall system outperforms all other sectors of American health care across 294 measures of disease prevention and treatment

2. Reporting Outcomes: hospitals publish scorecards in the UK



- **Progressive implementation:**
 - **Start from clinical outcomes and access indicators**, selected by an evidence based approach and based on data availability, and self reported patients experience
 - **Extend over time** to further access, process quality, patient experience and productivity indicators, **and refine set of indicators**, as “ad hoc” data flows are set up
- **Provide detail/view**
 - **up to single provider** (hospital/clinic)
 - **per group of services** (e.g., abdominal surgery) **as well as per pathways** (6–7 most relevant diseases, e.g., diabetes, and clinical conditions, e.g., frail & elderly)

2. Public reporting of outcomes drives quality and productivity



Helios, Germany

published risk-adjusted mortality indicators

- **29% decline in mortality** for heart failure and
- **28% in mortality for** aortic aneurysm



NHS North West London

used public reporting to target mortality processes and outcomes

- **255 lives saved**, a drop from **84 to 71** in hospital standardised mortality ratio



The U.S. Veteran's Administration

created electronic access for patients

- **Bed days reduced by 25%**

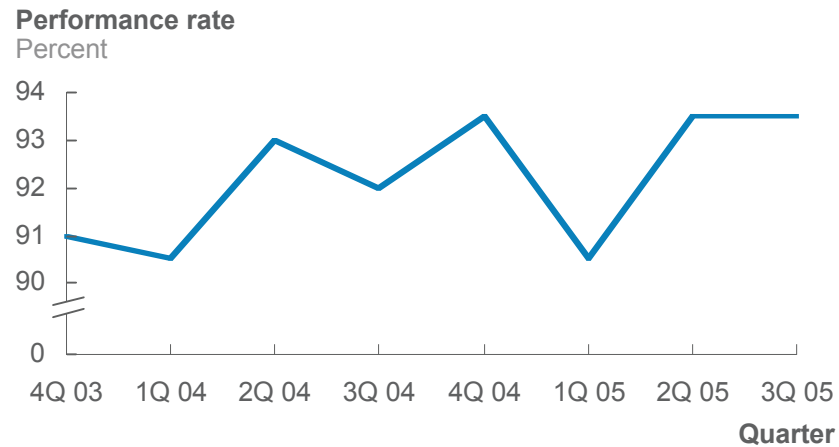


Benchmarking is nearly as powerful a driver of efficiency as financial incentives

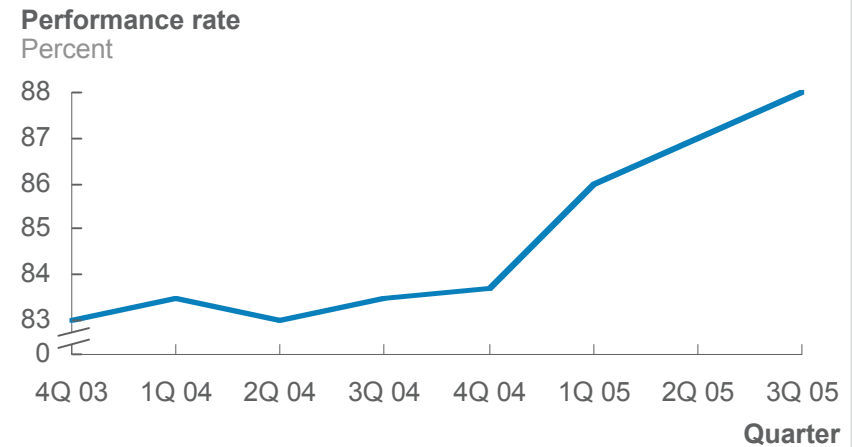
UK EXAMPLE

Improvement in composite process measures among hospitals engaged in public reporting

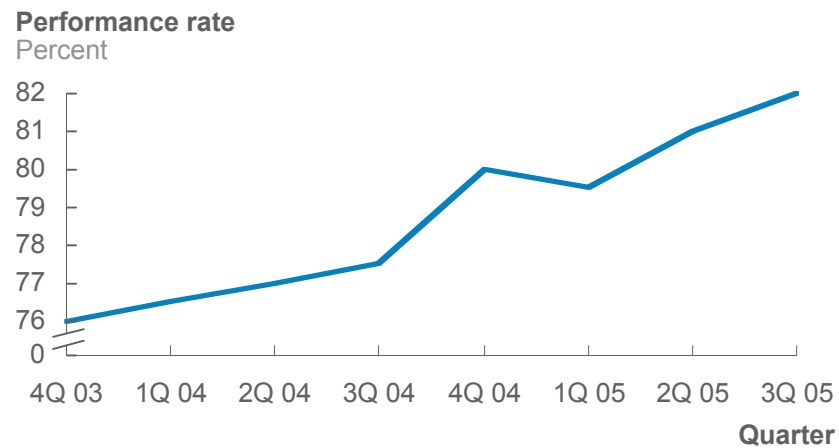
A Acute Myocardial Infarction



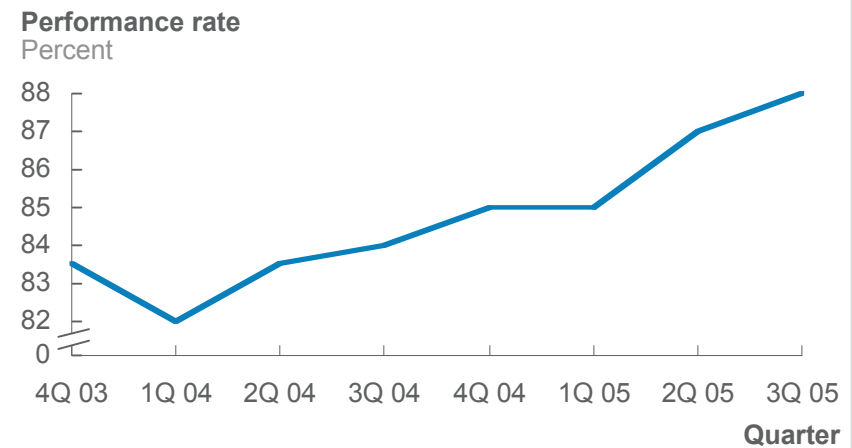
B Heart failure



C Pneumonia



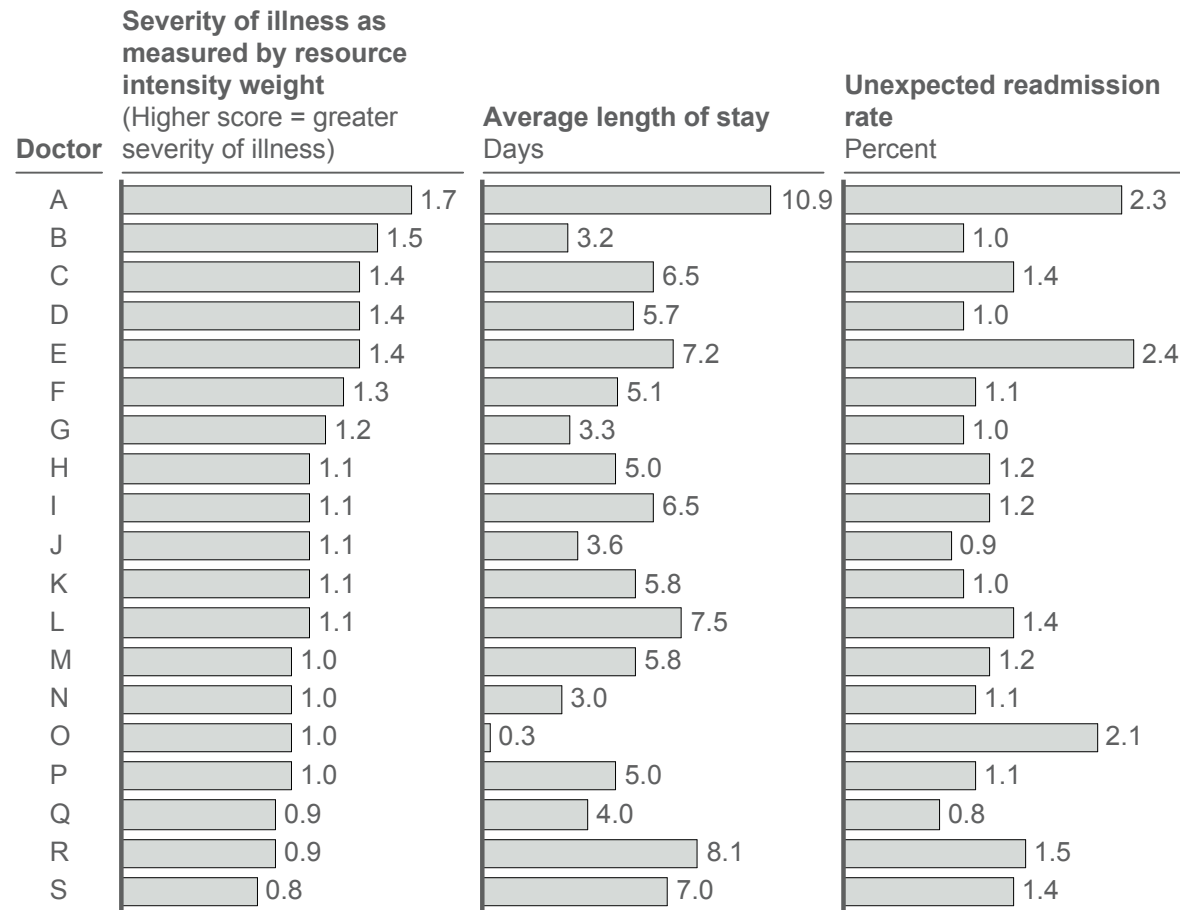
D Composite of 10 measures



Information transparency drives performance improvement through peer pressure

A leading Canadian teaching hospital registered large variations in patient care outcomes, with no correlation between performance metrics and severity of illness

Metrics for patients with simple pneumonia by doctor¹ (based on discharge data gathered in 2007)



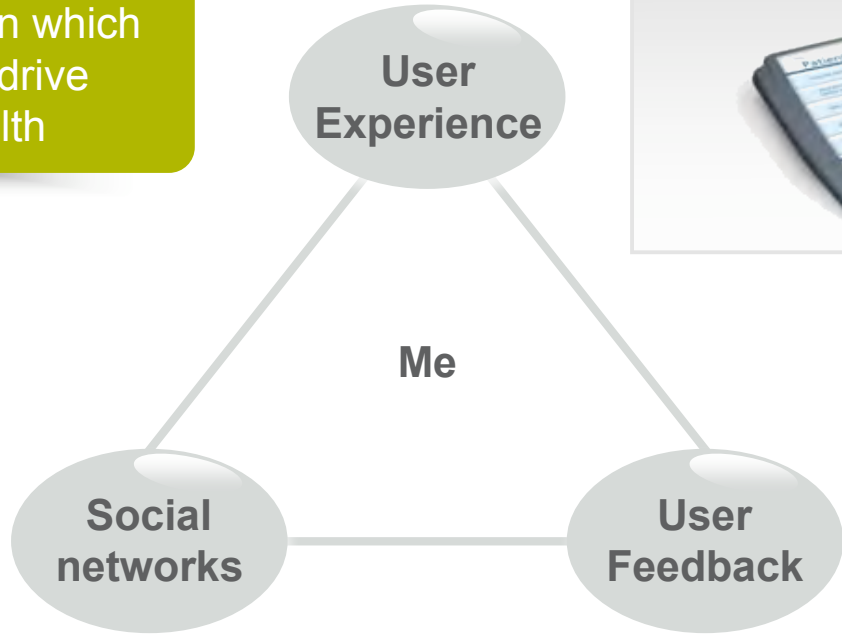
- The hospital made this information publicly available to doctors, performance and outcomes improved rapidly
 - Publicly sharing performance and outcome data encouraged the communication and dissemination of best practices
 - Doctors whose performance is furthest from best practice tended to migrate to the average fairly quickly (no one likes to be an outlier)
 - The top performers tended to improve as well (wanted to maintain their status as top performers)
- In a few months
 - Average length of stay decreased by more than 30%
 - Unexpected readmissions decreased by more than 20%
- The hospital amplified these effects by working with its doctors to develop clinical pathways for the 10 to 15 conditions they treat most often (accounting for one-third to one-half of all admissions)
 - Identifying 3-5 metrics per pathway
 - Ensuring constant monitoring and internal benchmarking

¹ Typical cases only excludes long-term-care patients and doctors with fewer than 50 cases


3. Public engagement: promoting community dialogue for efficiency

Digital technology can transform the way in which user feedback can drive engagement in health


Real time patient surveys in health and social care



Bringing users and carers together via digital media



Online comments – ‘Trip Adviser’



Case Study: Slough PCT increased diagnosis of Diabetes through public engagement with data about communal risk

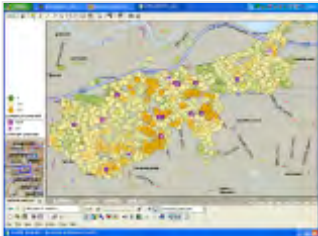
Diabetes in Slough



- Slough needed to reduce admissions for diabetes. It had a average 4% rate of diagnosed diabetes – it should have been more than 7%



- Pioneering analysis using retail techniques identified people most at risk of being undiagnosed.
- A number of key communities were identified



- Slough published the data to the local community and launched a high profile campaign to encourage early diagnosis

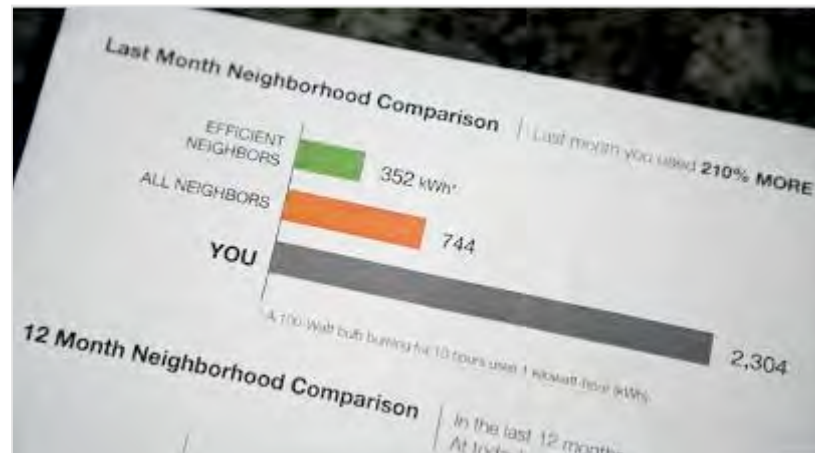
Local Area	Approximate % of population high on diabetes
Local Area 1	15
Local Area 2	12
Local Area 3	10
Local Area 4	8
Local Area 5	7
Local Area 6	6
Local Area 7	5
Local Area 8	4
Local Area 9	3
Local Area 10	2
Local Area 11	1
Local Area 12	1
Local Area 13	1
Local Area 14	1
Local Area 15	1
Local Area 16	1
Local Area 17	1
Local Area 18	1
Local Area 19	1
Local Area 20	1

- The campaign identified that the key communities tended to stay at home and were regular TV viewers.
- The diagnosis rate increased by 254% in six weeks



Case study: US power company used public engagement to change patterns of consumption

- A power company in the US sent personalised bills to 35,000 randomly selected customers, rating them on their energy use compared with that of neighbours in 100 homes of similar size that used the same heating fuel
- The customers were also compared with the 20 neighbours with the best fuel consumption
- After six months, it found that customers who received the personalized report reduced energy use by 2 percent more than those who got standard statements
- The approach has now been adopted across that company and is being trialled or rolled out at more than a dozen power companies across the US, to hundreds of thousands of customers



Case study: NHS Choices – public engagement with outcomes reduces use of health services



The image shows a screenshot of the NHS Choices website. At the top, there is a navigation bar with links for Home, Accessibility, Sitemap, About, Contact, and Mobile. On the right, there is a login option: 'Log in or create an account | Go to HealthSpace'. The main header features the NHS Choices logo with the tagline 'Your health, your choices'. Below the logo is a search bar with a dropdown menu showing 'Site search' and categories like 'GP', 'Hospital', 'Dentist', and 'Other services'. The search bar contains the text 'Enter a search term' and a 'Go' button. Below the search bar, there are links for 'News', 'Tools', 'Video', and 'Blog'. A red horizontal line separates the header from the main content area. The main content area has a 'Last updated 11:01' timestamp. Below this, there are two tabs: 'Site contents' and 'Featured today'. The 'Featured today' tab is active, showing a large image of a baby being held by a woman. Below the image, there are links for 'services near you. Find everything from GPs to gyms', 'Dentists', and 'Other services'. At the bottom of the page, there is a section titled 'Headlines' with a small image of a woman wearing glasses and a pink top. The text next to the image includes 'the news', 'the NHS', 'heart defects', and 'ant prostate canc'.

NHS Choices (www.nhs.uk) is a national service developed and launched for the British government in 2007

- Most popular health website
- 8 million unique users per month

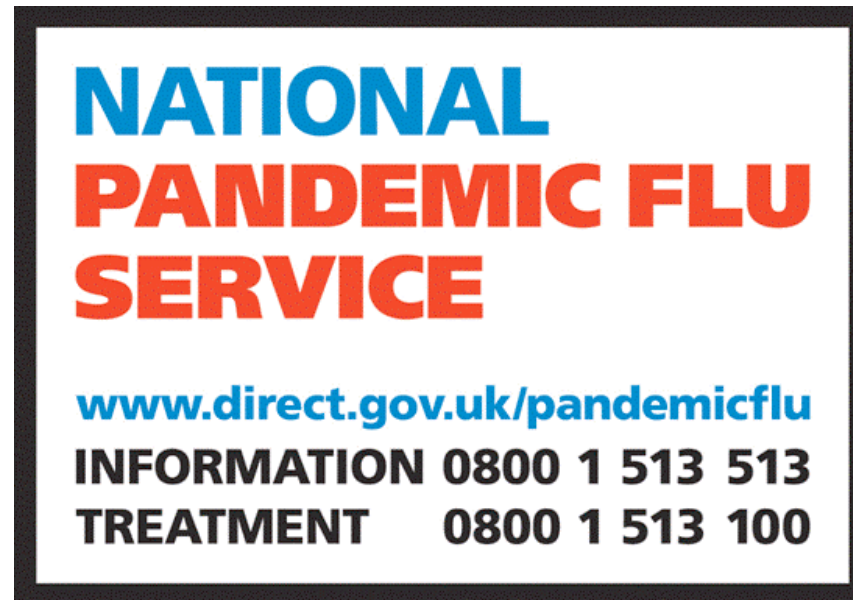
NHS Choices costs £10 million pounds per annum. Independent research concludes it saves far more by improving patient choice and decision-making

- £44m savings per annum on reduced attendance
- 37% of polled users reduced use of NHS services

NHS professionals use NHS Choices to benchmark clinical performance and use patient feedback resources as management tools

- More than 70% of GPs self-report outcomes on provider 'pages'

4. Digital applications offer opportunity for disruptive innovation at scale.



The NHS's Swine Flu hotline and online assessment tool immediately reduced calls to GP clinics by 80%

Description

- National Health Service (NHS) and Government response to the Swine Flu out-break in the UK consisting of:
 - A range of online information including prevention, treatment, action and Q&As
 - Hotline manned from 8am to midnight for diagnosis of Swine Flu and prescription of Tamiflu (drug ameliorates Swine Flu symptoms)
 - Online tool to assess the patient's symptoms and, if required, provide an authorisation number, which can be used in England to collect antivirals from a local Antiviral Collection Point



Cost Advantage and Quality

- **Challenge over quality of diagnosis** due to non-medical call centre operators diagnosing patients over the phone
- The Swine Flu hotline and internet advice portal has:
 - 80% reduction in the number of calls GP clinics
 - Easy, convenient and fast access to a diagnosis and, when necessary, medication
- Cost advantage has been a reduction in the wasted time and money due to GPs handling numerous calls from Swine Flu sufferers – lower opportunity cost of handling calls through call centre
 - Enables better access as GPs were overwhelmed with patients calling
 - Reduces chance of further spread of illness by keeping patients isolated at home

Relevance

- Following the outbreak and fast escalation in the number of Swine Flu cases in England, GP surgeries were being overwhelmed by the number of people calling up with suspected cases of Swine Flu
- Estimates were suggesting that there would be up to 100,000 new cases of Swine Flu confirmed daily in August in the UK
 - Need for preparation for a potential nation Pandemic effecting large proportions of the UK population
 - Importance of taking measures to ensure healthcare services would be provided to those with other medical issues
 - Need to un-burden GPs taking numerous calls per day about Swine Flu

Scalability

- Hotline currently only in England with other UK countries not taking up the initiative for various reasons:
 - Separate Scottish flu response hotline was set up at the beginning of June, and was coping well with ~500 calls a day
 - In Wales, they would provide healthcare services through channels people are more familiar with (i.e. GP visits)
 - In Northern Ireland the number of Swine Flu consultations was at a level where GP visits was a sustainable solution
- Solution is transferable to other pandemic cases where a diagnosis can be made by following an agreed set of protocols
- **Swine Flu hotline over-estimated scale of pandemic and therefore was seen to be wasting money as number of cases did not rise in line with initial predictions**

Case study: Care Management Company (CMO) – USA




Care Management Company is pioneering the use of telemonitoring for the care of chronic illnesses



Background	Description	Quantified Impact
<ul style="list-style-type: none"> ▪ In the U.S. and other developed countries, the elderly population is growing rapidly ▪ The 85+ population in the U.S. has a high incidence of chronic illnesses, which are expensive and require daily management ▪ The growing shortage of primary care physicians and healthcare professionals has led to need to better leverage existing expertise ▪ Patients often would wait to see their doctors until their conditions had deteriorated, resulting in lower quality of life and higher cost ▪ Multiple visits and lack of proactive disease management led to a cost of \$23,000 per patient ▪ Chronically ill patients required much costlier care than all patients; at Montefiore, 20% of Medicare patients made up 84% of costs 	<ul style="list-style-type: none"> ▪ Care Management Company (“CMO”) monitors chronically ill and elderly patients with a range of technologies ▪ CMO is a subsidiary of Montefiore Medical Centre in New York which contracts with medical insurance plans to manage care for 100,000+ plan members in the area ▪ CMO’s leadership in telemonitoring has allowed them to improve best practices ▪ Technology-enabled, network-based delivery: <ul style="list-style-type: none"> – Patients use technology, which asks them condition-specific questions daily and transmits answers to nurses; some devices also monitor weight, or provide telephone reminders – In the clinic, the number of doctors visits and the cost to care for each patient has been reduced ~35% 	<ul style="list-style-type: none"> ▪ Access: <ul style="list-style-type: none"> – 38% and 55% reduction in inpatient admissions and emergency room visits respectively for chronically ill patients, during the first year of the program ▪ Cost: <ul style="list-style-type: none"> – ~35% reduction in costs for chronically ill patients, ~\$5,000/patient/year ▪ Quality: <ul style="list-style-type: none"> – 25% reduction in hospital utilization for 125 heart failure patients who used CardioCom telescale regularly – Improved quality of life for programme participants who were helped to stay healthy

CMO uses disruptive technology to remotely monitor chronic diseases in order to improve effectiveness of clinical talent



Success Factors	Good Management Practices
<ul style="list-style-type: none">▪ Solution harnesses the willingness and desire of the patient to help manage their own healthcare and to be involved in the care that it being administered to them<ul style="list-style-type: none">– Patients feel a greater connection to their doctor and medical facility– Presence of device in home has been seen to act as a constant reminder of need for healthy lifestyle▪ Solution combines specialised technology that can aid patients in monitoring their health from home and standardised protocols such that the results are accurate and can be collected by the patients themselves▪ Model better utilises some of the most expensive assets that Montefiore Medical Centre own, which is their doctors, by only asking patients to come to the centre when the results make it necessary for further diagnosis or analysis<ul style="list-style-type: none">– Maximises medical expertise of the clinical talent– Nurses are right-skilled to monitor the transmitted results from the patients	<ul style="list-style-type: none">▪ Within Montefiore Medical Centre, the CMO is solely focusing on the remote monitoring of chronic diseases▪ Delivery solution made itself financially viable in two main ways<ul style="list-style-type: none">– Patients pay a one off charge for the monitoring technology– Savings are made for the parent company due to reduction in hospital visits by patients▪ Montefiore had a clear strategy and end goal of reducing cost of chronic diseases from the outset 

Case study: Medical - Mexico



Medicall has reduced patient costs by decreasing need for visiting physicians, also producing savings for the system





Background	Description	Quantified Impact								
<ul style="list-style-type: none"> ▪ In Mexico, triage was only provided by physicians on a face to face basis, leading to: <ul style="list-style-type: none"> – Poor access for many individuals in rural parts of Mexico <ul style="list-style-type: none"> ▫ Time consuming process – including travel and queuing time to see doctor ▫ Large cost for low income individuals (often paying to see a doctor unnecessarily) ▪ Lower supply of health care practitioners in Mexico: <div style="text-align: center;"> <p>Doctors per 1,000 population</p> <table border="1"> <tr> <td>Mexico</td> <td>1.5</td> </tr> <tr> <td>OECD</td> <td>2.9</td> </tr> </table> <p>Nurses per 1,000 population</p> <table border="1"> <tr> <td>Mexico</td> <td>2.1</td> </tr> <tr> <td>OECD</td> <td>8.2</td> </tr> </table> </div>	Mexico	1.5	OECD	2.9	Mexico	2.1	OECD	8.2	<ul style="list-style-type: none"> ▪ Patients subscribe for a flat monthly fee, and are able to call Medicall 24/7 for health advice and triaging <ul style="list-style-type: none"> – 62% of calls are handled on the phone – 38% of calls result in referrals to a network of pre-verified physicians, and the visit is discounted ▪ Citizens can receive remote access to medical support more affordably than going to a clinic ▪ Launched 10 years ago with ~1 million families (~4.3 individuals) registered making ~90,000 calls per month ▪ Technology-enabled, network-based delivery: <ul style="list-style-type: none"> – Existing mobile phone network is core of program operations 	<ul style="list-style-type: none"> ▪ Quality: Patients are triaged according to evidence-based protocols and those who need referring go to one of 6,000 pre-verified physicians or 3,000 medical practitioners over 233 cities ▪ Cost: Savings for patients and system <ul style="list-style-type: none"> – Patients who are successfully triaged and don't need to see a physician save at least US\$30 in costs – Patients who are referred get a 5-50% discount – Avoidance of unnecessary hospital costs for patients who can be triaged – reduces medical system costs – Ambulance trips avoided ▪ Access: ~1m calls handled per year by 60 employed physicians (~90,000 per month) 24/7 <ul style="list-style-type: none"> – Access for rural areas improved significantly
Mexico	1.5									
OECD	2.9									
Mexico	2.1									
OECD	8.2									

Medicall used mobile infrastructure and billing platform with clinical protocols to significantly improve remote access

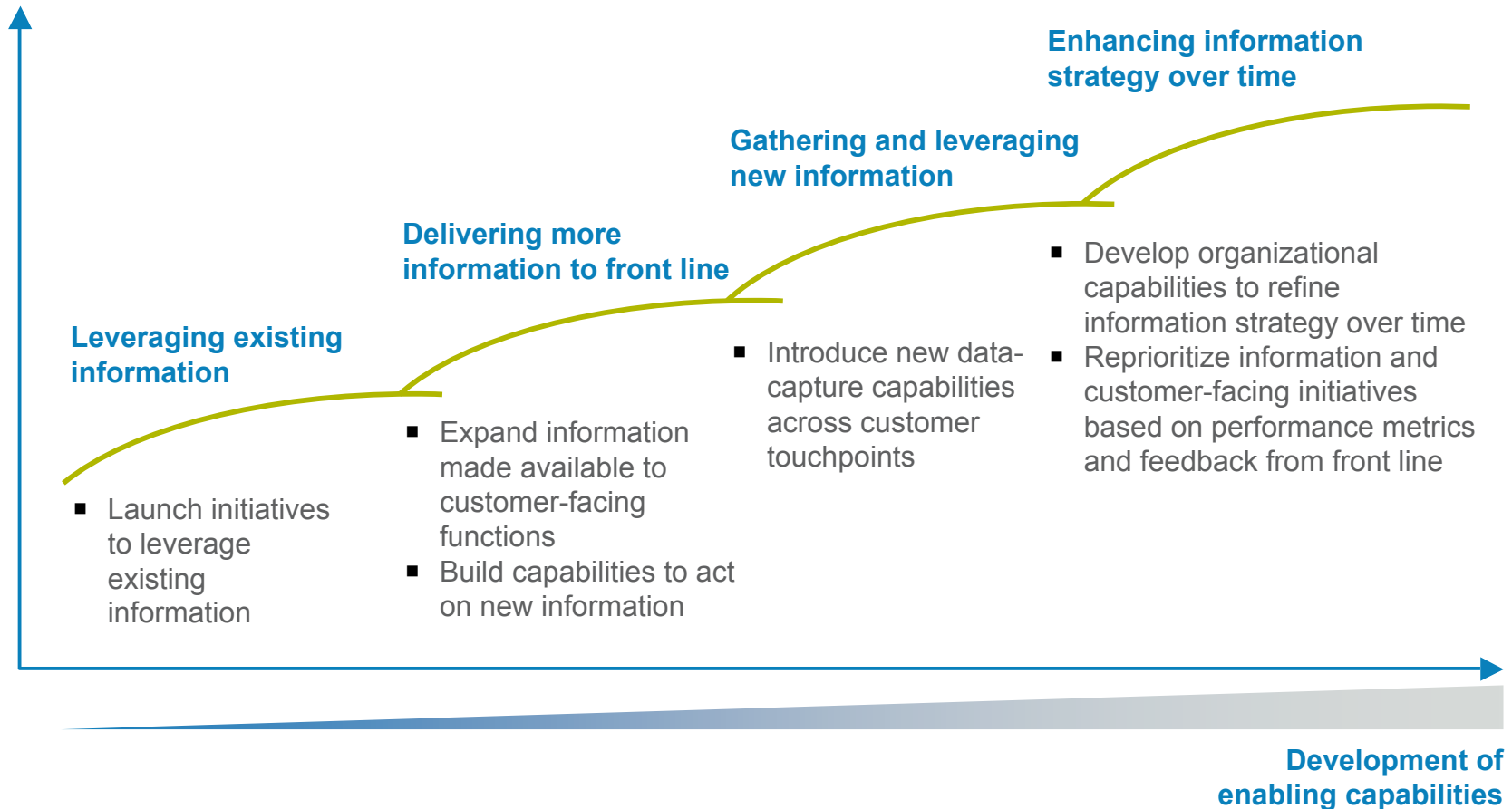


Success Factors
<ul style="list-style-type: none"> ▪ Given access to medical professionals over the phone, patients are better able to manage their own care and provide that care within their home ▪ Using mobile phone technology to reach medical staff enables access (particularly in rural areas) to medical advice and triage – billed on phone bill <ul style="list-style-type: none"> – 2/3 of calls can be handled over the phone – Increases speed at which patients receive information ▪ Processes are highly standardized: <ul style="list-style-type: none"> – Standard telemedicine clinical protocols for diagnosis (from Cleveland Clinic in the US) and over triaging cases or escalating to urgent/non-urgent referrals – Paramedics decide on potential emergency within 2-3 minutes (and escalate to generalist/specialist), then offer triage services in next 10-12 minutes ▪ Improves quality through referral to pre-verified network of physicians ▪ Joint venture with TelMex, which gave access to their mobile phone network; leverages billing system, charging \$5 on top of existing monthly mobile phone bill

Good Management Practices
<ul style="list-style-type: none"> ▪ As a start up venture that recognized the opportunity to leverage existing mobile phone networks, Medicall was built on a strong business model and clear vision ▪ Medicall pays for itself through monthly subscription fee; will benefit further from increase in scale as program grows in Mexico ▪ Although it plans to grow into chronic disease management, specifically diabetes, Medicall is only expanding into areas where its business model is a compelling value proposition to end users <div style="display: flex; justify-content: center; align-items: center; gap: 20px;">   </div>

Healthy communities need a local Information Revolution

Local commissioners should be promoting online transparency for citizens

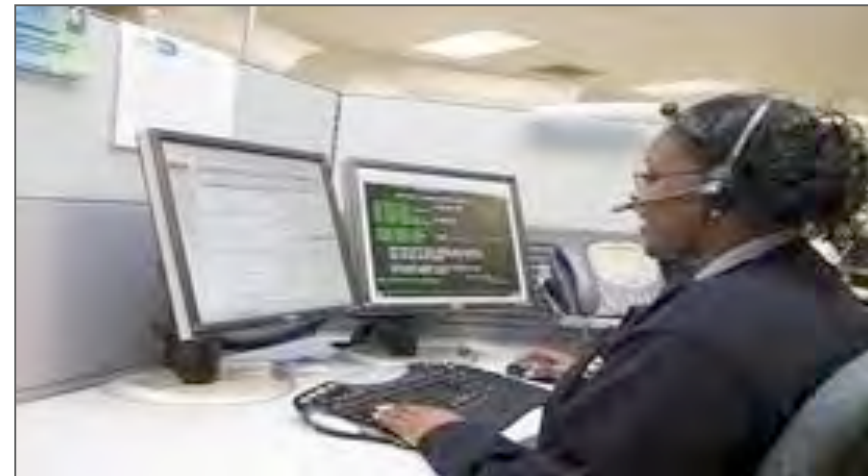


Miami 311 – transparency in action



Miami Dade provides real time online data on 4,500 non-emergency services, like refuse collection, to drive customer satisfaction, productivity and service quality.

It took 2 people 8 days to produce the app with no up-front costs



‘Mass customisation will be as important to business in the 21st century as mass production was in the twentieth’

How productively engaged is your community in their health?

Do they have access to their own data?

Do they have access to other people and their feedback?

Do they have access to intelligence on the health challenges of their community?

Do they have access to outcomes information they can use?



Innovation

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